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IN THE CLAIMS

Please cancel claims 3, 14, and 25 and amend claims 1, 4-12, 15-24, and 26-33 as follows:

1. (CURRENTLY AMENDED) A method of controlling a plurality of solar panels coupled to a spacecraft, comprising the steps of

providing a first step command to a first solar panel [[; and]] comprising the steps of

computing a first solar panel angular command; and

providing the computed first solar panel angular command to a first solar panel

driver;

providing a second step command to a second solar panel at a time of a transient zero-crossing of a dynamic response of the spacecraft body to the first step command [[;]] comprising the steps of

computing a second solar panel angular command;

biasing the computed second solar panel angular command by a transient cancellation bias angle; and

providing the biased second solar panel angular command to a second solar panel driver;

wherein the second solar panel is disposed on an opposite side of the spacecraft from the first solar panel.

2. (ORIGINAL) The method of claim 1, wherein the first solar panel and the second solar panel are rotatable about a longitudinal axis, and at least one of the first solar panel and the second solar panel are tilted away from a spacecraft body pitch axis.

3. (CANCELED)

4. (CURRENTLY AMENDED) The method of claim [[3]] 1, wherein the transient cancellation bias angle is computed at least in part from a product of a desired time lag and a Sun-tracking angular rate of the second solar panel.

5. (CURRENTLY AMENDED) The method of claim [[3]] 1, wherein the transient cancellation bias angle is determined by terrestrially-based processors simulating the dynamic response of the spacecraft body to the first step command.

6. (CURRENTLY AMENDED) The method of claim [[3]] 1, wherein the transient cancellation bias angle is determined from terrestrially based testing of the dynamic response of the spacecraft body to the first step command.

7. (CURRENTLY AMENDED) The method of claim [[3]] 1, wherein the transient cancellation bias angle is estimated by a spacecraft processor.

8. (CURRENTLY AMENDED) The method of claim [[3]] 1, wherein the transient cancellation bias angle is estimated by space-based testing of the dynamic response of the spacecraft body to the first step command.

9. (CURRENTLY AMENDED) The method of claim [[3]] 1, wherein:

the step of providing a first step command to the first solar panel further comprises the step of quantizing the first solar panel bias angular command;

the step of biasing the computed second solar panel angular command by a transient cancellation bias angle comprises the steps of

quantizing the second solar panel bias angular command;

computing a modified solar panel bias angular command at least in part from the sum of the quantized second solar panel angular command and the transient cancellation bias angle.

10. (CURRENTLY AMENDED) The method of claim 9, wherein the first step command and the second step command are characterized by a step size, and wherein:

the first solar panel angular command is quantized to a least significant bit equal to the a step size and to a value of a nearest step;

the second solar panel command is quantized to the least significant bit.

11. (CURRENTLY AMENDED) A The method of claim 1 controlling a plurality of solar panels coupled to a spacecraft, wherein comprising the steps of:

the step of providing a first step to the first solar panel, comprising comprises the steps of:
computing a first solar panel bias angular command;
computing the first step command at least in part from the first solar panel bias angular command;
providing the first step command to a first solar panel driver;

the step of providing a second step command to a second solar panel at a time of a transient zero-crossing of a dynamic response of the spacecraft body to the first step command, comprising comprises the steps of:
computing a second solar panel bias angular command;
computing the second step command at least in part from the second solar panel bias angular command;
providing the computed second solar panel bias angle command to the solar panel driver;
and
biasing a second solar panel position by a transient cancellation bias angle.

12. (CURRENTLY AMENDED) An apparatus for controlling a plurality of solar panels coupled to a spacecraft body, comprising:

- a processor;
- a first solar panel driver, communicatively coupled to the processor, for providing a first step command to a first solar panel; and
- a second solar panel driver, communicatively coupled to the processor, for providing a second step command to a second solar panel at a time of a transient zero-crossing of a dynamic response of the spacecraft body to the first step command;

wherein:

the second solar panel is disposed on an opposite side of the spacecraft from the first solar panel[[.]];

the processor computes a first solar panel angular command, computes a first step command at least in part from the first solar panel angular command and provides the computed first step command to the first solar panel driver; and

the processor computes a second solar panel angular command, biases the second solar panel angular command by a transient cancellation bias angle, computes a second step command at least in part from the biased second solar panel angular command, and provides the second step command to the second solar panel driver.

13. (ORIGINAL) The apparatus of claim 12, wherein the first solar panel and the second solar panel are rotatable about a longitudinal axis, and at least one of the first solar panel and the second solar panel are tilted away from a spacecraft body pitch axis.

14. (CANCELED)

15. (CURRENTLY AMENDED) The apparatus of claim [[14]] 12, wherein the transient cancellation bias angle is computed at least in part from a product of a desired time lag and a Sun-tracking angular rate of the second solar panel.

16. (CURRENTLY AMENDED) The apparatus of claim [[14]] 12, wherein the transient cancellation bias angle is determined by terrestrially-based processors simulating the dynamic response of the spacecraft body to the first step command.

17. (CURRENTLY AMENDED) The apparatus of claim [[14]] 12, wherein the transient cancellation bias angle is determined from terrestrially based testing of the dynamic response of the spacecraft body to the first step command.

18. (CURRENTLY AMENDED) The apparatus of claim [[14]] 12, wherein the transient cancellation bias angle is estimated by a spacecraft processor.

19. (CURRENTLY AMENDED) The apparatus of claim [[14]] 12, wherein the transient cancellation bias angle is estimated by space-based testing of the dynamic response of the spacecraft body to the first step command.

20. (CURRENTLY AMENDED) The apparatus of claim 12, wherein:

the processor computes a first solar panel bias angular command, quantizes the first solar panel bias angular command, computes a first step command at least in part from the quantized first solar panel bias angular command and provides the computed first step command to the first solar panel driver; and

the processor computes a second solar panel bias angular command, quantizes the second solar panel angular command, biases the quantized second solar panel bias angular command by a transient cancellation bias angle, computes a second step command at least in part from the quantized biased second solar panel bias angular command, and provides the second step command to the second solar panel driver.

21. (CURRENTLY AMENDED) The apparatus of claim 20, wherein the first step command and the second step command are characterized by a step size, and wherein:

the first solar panel angular command is quantized to a least significant bit equal to the step size and to a value of a nearest step;

the second solar panel command is quantized to the least significant bit.

22. (ORIGINAL) An The apparatus of claim 12 for controlling a plurality of solar panels coupled to a spacecraft body, wherein comprising:

a processor;

a first solar panel driver, communicatively coupled to the processor, for providing a first step command to a first solar panel; and

a second solar panel driver, communicatively coupled to the processor, for providing a second step command to a second solar panel at a time of a transient zero-crossing of a dynamic response of the spacecraft body to the first step command;

wherein:

the second solar panel is disposed on an opposite side of the spacecraft from the first solar panel[[.]];

the processor computes a first solar panel bias command, computes a first step command at least in part from the first solar panel bias command and provides the computed first step command to the first solar panel driver; and

the processor computes a second solar panel bias command, computes a second step command at least in part from the second solar panel bias command, provides the second step command to the second solar panel driver, and biases the second solar panel position by a transient cancellation bias.

23. (CURRENTLY AMENDED) An apparatus for controlling a plurality of solar panels coupled to a spacecraft, comprising:

means for providing a first step command to a first solar panel [[; and]] ,comprising

means for computing a first solar panel command;

means for providing the computed first solar panel command to a first solar panel driver;

means for providing a second step command to a second solar panel at a time of a transient zero-crossing of a dynamic response of the spacecraft body to the first step command [[;]].
comprising

means for computing a second solar panel command;

means for biasing the computed second solar panel command by a transient cancellation bias;

means for providing the biased second solar panel command to a second solar panel driver;

wherein the second solar panel is disposed on an opposite side of the spacecraft from the first solar panel.

24. (ORIGINAL) The apparatus of claim 23, wherein the first solar panel and the second solar panel is rotatable about a longitudinal axis, and at least one of the first solar panel and the second solar panel are tilted away from a spacecraft body pitch axis.

25. (CANCELED)

26. (CURRENTLY AMENDED) The apparatus of claim [[25]] 23, wherein the transient cancellation bias angle is computed at least in part from a product of a desired time lag and a Sun-tracking angular rate of the second solar panel.

27. (CURRENTLY AMENDED) The apparatus of claim [[25]] 23, wherein the transient cancellation bias angle is determined by terrestrially-based processors simulating the dynamic response of the spacecraft body to the first step command.

28. (CURRENTLY AMENDED) The apparatus of claim [[25]] 23, wherein the transient cancellation bias angle is determined from terrestrially based testing of the dynamic response of the spacecraft body to the first step command.

29. (CURRENTLY AMENDED) The apparatus of claim [[25]] 23, wherein the transient cancellation bias angle is estimated by a spacecraft processor.

30. (CURRENTLY AMENDED) The apparatus of claim [[25]] 23, wherein the transient cancellation bias angle is estimated by space-based testing of the dynamic response of the spacecraft body to the first step command.

31. (CURRENTLY AMENDED) The apparatus of claim [[25]] 23, wherein:
the means for providing a first step command to the first solar panel further comprises
means for quantizing the first solar panel bias angular command;
the means for biasing the computed second solar panel angular command by a transient cancellation bias angle comprises
means for quantizing the second solar panel bias angular command;
means for computing a modified solar panel bias angular command at least in part from the sum of the quantized second solar panel angular command and the transient cancellation bias angle.

32. (OCURRENTLY AMENDED) The apparatus of claim 31, wherein the first step command and the second step command are characterized by a step size, and wherein:
the first solar panel angular command is quantized to a least significant bit equal to the a step size and to a value of a nearest step;
the second solar panel command is quantized to the least significant bit.

33. (CURRENTLY AMENDED) An The apparatus of claim 23 for controlling a plurality of solar panels coupled to a spacecraft body, wherein comprising:

the means for providing a first step to the first solar panel, comprising comprises:

means for computing a first solar panel bias angular command;

means for computing the first step command at least in part from the first solar panel bias angular command;

means for providing the first step command to a first solar panel driver;

the means for providing a second step command to a second solar panel at a time of a transient zero-crossing of a dynamic response of the spacecraft body to the first step command, comprising comprises:

means for computing a second solar panel bias angular command;

means for computing the second step command at least in part from the second solar panel bias command;

means for providing the computed second solar panel bias angle command to the solar panel driver; and

means for biasing a second solar panel position by a transient cancellation bias.